

NuScaleTRRaisPEm Resource

From: Cranston, Gregory
Sent: Sunday, July 30, 2017 10:35 AM
To: RAI@nuscalepower.com
Cc: NuScaleTRRaisPEm Resource; Lee, Samuel; Skarda, Raymond; Karas, Rebecca; Schmidt, Jeffrey; Chowdhury, Prosanta; Bovol, Bruce
Subject: RE: Topical Report Thermal Hydraulic Stability - Request for Additional Information Letter No. 8922 (eRAI No. 8922)
Attachments: Request for Additional Information No. 8922 (eRAI No. 8922).pdf

Attached please find NRC staff's request for additional information concerning review of the NuScale Topical Report.

Please submit your response within 60 days of the date of this RAI to the NRC Document Control Desk.

If you have any questions, please contact me.

Thank you.

Hearing Identifier: NuScale_SMR_DC_TR_Public
Email Number: 39

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Subject: RE: Topical Report Thermal Hydraulic Stability - Request for Additional Information Letter No. 8922 (eRAI No. 8922)
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From: Cranston, Gregory

Created By: Gregory.Cranston@nrc.gov

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Tracking Status: None

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Options

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Request for Additional Information No. 8922 (eRAI No. 8922)

Issue Date: 07/30/2017
Application Title: NuScale Topical Report
Operating Company: NuScale
Docket No. PROJ0769
Review Section: 01 - Introduction and Interfaces
Application Section:

QUESTIONS

01-23

Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix A, General. Design Criterion (GDC), 10, "Reactor design," requires that the reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences. The Standard Review Plan (SRP) 15.0.2 acceptance criteria with respect to evaluation models specifies that the chosen mathematical models and the numerical solution of those models must be able to predict the important physical phenomena reasonably well from both qualitative and quantitative points of view.

In determining the important phenomena, a phenomena identification and ranking table (PIRT) has been developed. The PIRT ranking of the pellet thermal conductivity and pellet heat capacity appear to be inconsistent with the ranking of the reactivity feedback in Table 4-1 of the topical report, TR-0516-49417-P.

In order to make an affirmative finding, NRC staff requests NuScale provide additional justification of the ranking for the pellet thermal conductivity and pellet heat capacity. In this justification consider the importance of reactivity feedback arising from changes in fuel temperature.